



# Preserving Shock Action: A New Approach to Armored Maneuver Warfare

by Lester W. Grau

In theory, mechanized infantry, self-propelled artillery, and armored forces are mutually supporting. Artillery rains destruction to the front and flanks as infantry personnel carriers and dismounted infantry protect tanks from enemy antitank systems and enemy infantry. Simultaneously, tanks protect the personnel carriers and dismounted infantry from enemy tanks and strong points. In practice, personnel carriers have problems keeping up with fast-moving tanks, their armor protection is too thin to survive at the point of the attack and battle drills between tanks and mechanized infantry frequently break down due to the lack of sufficient team training prior to combat. Artillery fire may be on or off target, or too early or too late. The bottom line is that there is often too great a gap between the tanks and the mechanized infantry at the crucial point and artillery may not bridge that gap.

During the 3d Infantry Division's battle for An Najaf in March 2003, the division attacked to seize two main bridges to the north and south of the city. When the 1st Brigade Combat Team's attack on the northern bridge in the town of Al Kifl was stalled because of resistance, B Company, 3d Battalion, 7th Infantry (two mechanized infantry platoons and a tank platoon) moved to assist. As the column was forcing the bridge, the Iraqi defenders blew up the bridge, damaging a span and isolating three tanks on the east bank of the Euphrates, while the remaining tank and all the mechanized infantry were on the west bank. The attack stalled. Finally, the remaining tank and Bradleys crossed the damaged bridge to join the tanks, but the momentum was lost. The company fought off attacks for about six hours before withdrawing across the damaged bridge.<sup>1</sup>

The proliferation of rocket-propelled grenade (RPG)-7 antitank grenade launchers and antitank missiles have complicated the task of tanks and mechanized infantry working together. The Russians entered the Chechen City of Grozny on 31 December 1994. The first unit to penetrate the city center was the 131st "Maikop" Brigade. Russian forces initially met no resistance when they entered the city at noon. They drove their vehicles straight to the city center, dismounted, and moved into the train station. Other elements of the brigade remained parked along a side street as a reserve force. Then the Chechens attacked with

RPGs. They first destroyed the Russian lead and rear vehicles on the side streets, trapping the unit. The tanks could not lower their gun tubes far enough to shoot into basements or high enough to reach the tops of buildings. Infantry fighting vehicles and personnel carriers were unable to support their tanks. Chechens systematically destroyed the column from above and below with RPGs and grenades. Other Chechens surrounded the force in the train station. The commander of the Russian unit waited until 2 January for reinforcements, but they never arrived. Part of his decimated unit broke out. By 3 January 1995, the brigade had lost nearly 800 men, 20 of its 26 tanks, and 102 of its 120 armored vehicles.<sup>2</sup>

Several nations have recognized the problem of the tactical gap and tried to deal with it. The Soviet Union (and now Russia) has led the effort to find a solution. Their solutions have been technological, tactical, and structural.

## The Soviet Technological Approach

The first Soviet technological solution addressed the problem before the infantry armored personnel carrier was common. Designers recognized that the tank needed a variety of firepower immediately available during the attack, so they hung a variety of weapons systems on the tank. The Soviet T-35 heavy tank weighed 50 tons, had an 11-man crew and carried a 76.2mm cannon, two 45mm cannons, and six 7.62mm machine guns. These awesome five-turret monsters were produced from 1936 to 1939, but proved too cumbersome for the battlefield.<sup>3</sup> Even the Soviet T-28 medium tank carried a 76.2mm cannon and four 7.62mm machine guns.<sup>4</sup> These over-equipped tanks did not survive the early days of World War II. The main Soviet tanks of World War II were the T-34-85 medium tank and the KV1 heavy tank. The T-34-85 weighed 32 tons, had a five-man crew, and carried an 85-mm cannon and two 7.62mm machine guns.<sup>5</sup> The KV1 weighed 47.5 tons, had a five-man crew, and carried a 76mm cannon and four 7.62mm machine guns.<sup>6</sup>

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gish, and had limited cross-country mobility. The BTR-152A eventually carried dual-mounted 14.5mm heavy machine guns — though more for anti-aircraft fire than for tank support. Production of the BTR-152 series ceased in 1959.<sup>7</sup>

In 1959, the Soviets decided to develop two types of infantry personnel carriers: tracked infantry fighting vehicles that would serve in tank divisions and cheaper wheeled armored infantry personnel carriers that would serve in the more numerous motorized rifle divisions. The tracked chassis of the BMP offered better mobility and a better chance to keep up with the tanks. However, the tracked vehicles were more expensive to produce, operate, and maintain.<sup>8</sup> The BMP was designed to serve as more than a mere battle taxi. Its armor protected the crew and infantry from bullets and radiation and its armaments and firing ports



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allowed the vehicle to engage the enemy effectively without dismounting the infantry squad.<sup>9</sup> The BMP allowed the tanks and mechanized infantry to function as a mutually supporting team.

There were three main types of Soviet BMP produced between 1966 and 1991. The basic BMP-1 is armed with a 73mm low-pressure cannon, an AT-3 Sagger antitank guided missile launch rail, and a 7.62mm coaxial machine gun. It has a one-man turret and all weapons can be reloaded from inside the vehicle.<sup>10</sup> The BMP-2 entered service in 1980. The basic model has a two-man turret and is armed with a 30mm automatic cannon, a 7.62mm coaxial machine gun, and a launch rail for either the AT-4 Spigot or AT-5 Spandrel antitank missiles.<sup>11</sup> The BMP-3 entered service in 1987 and has a 30mm automatic cannon, a 100mm cannon, a 7.62mm coaxial machine gun, and two 7.62mm bow-mounted machine

guns.<sup>12</sup> The BMP-2 and BMP-3 have a significant anti-aircraft capability against helicopters and low-flying, fixed-wing aircraft.

After the Soviet tank divisions were equipped with the BMP, the Soviets examined the composition of their motorized rifle divisions. The wheeled BTR infantry personnel carriers were lightly armored and only carried a 14.5mm heavy machine gun. Clearly, they were not the optimum vehicles to fight in coordination with tanks, and each motorized rifle division had a regiment of tanks. To upgrade the capability of the motorized rifle division, each division was re-equipped so that one of the three motorized rifle regiments had BMPs in lieu of BTRs. The tanks and BMPs always fought together on the main attack. Self-propelled artillery and self-propelled anti-aircraft weapons, such as the ZSU 23-4, accompanied the tanks and BMPs to provide a lethal, integrated combat team where each system provided mutual support. But, technology is only part of the equation.

### **The Soviet Tactical Approach**

The Soviet armored attack was a highly orchestrated lethal ballet. It was a ballet built around an artillery schedule where massed artillery was fired in phases and the armor and mechanized artillery advanced behind a wall of sizzling shrapnel precisely in accordance with those phases. Battalion and below tactics were a series of simple battle drills that were repeated endlessly so that soldiers could perform them automatically and flawlessly when they were frightened, tired, or had just been called out of the reserves after ten years as a civilian. Tactics were rigid and provided predictability — a strong suit for an army that valued operational flexibility.<sup>13</sup>

Artillery was key (and close). Self-propelled howitzers accompanied the attack and provided direct fire on resisting en-



emy strong points. Multiple rocket launchers were even used in direct fire against a particularly stubborn enemy. Helicopter gunships and fixed wing fighter bombers served as a very mobile artillery in support of the advance throughout the depths. The enemy was NATO or China-modern, industrial armies defending in-depth in predictable patterns.

### The Soviet Structural Approach

Despite the impressive technology and tactics, tanks still tended to separate from BMPs and artillery during the advance. The 1973 Arab-Israeli War proved the value of the RPG and antitank-guided missile to the defender. Tanks had to fight as a combined arms team to survive, but could not afford to slow down and lose the momentum of the attack. The answer appeared to be better combined arms training. In the late 1980s, the Soviets began forming combined arms battalions, which had organic tanks, BMPs, and artillery. The combined arms battalion allowed units to train for mutual support continuously, instead of only during scheduled exercises. However, the combined arms battalion required seasoned commanders who could deal with the training, supply, and maintenance demands of this complex unit. Soviet junior officers were usually younger and less-experienced than their Western counterparts when they commanded at various levels — although they tended to command longer during a career. The combined arms battalion experiment failed due to its complexity, internal turmoil in the army, and leadership challenges.

### Mind the Gap

The Soviet-Afghan War and the Chechen Wars emphasized the tactical gap for the Soviets and the Russians. The enemy was not modern, mechanized, nor arrayed in a defense in-depth. Their RPG gunners knew where the soft spots were on the various Soviet/Russian vehicles.<sup>14</sup> The terrain worsened the problem of the tactical gap and, in the areas where the tanks could go, tanks and BMPs were often separated and unable to support each other. In the mountains of Afghanistan, the tanks were often left behind and the BMPs and BTRs had to accomplish an independent mission they were not designed for. The Russians decided that the tactical gap between tanks and mechanized infantry is almost inevitable.

The battle of Grozny on New Year's Eve 1994 provided the impetus to develop a heavily armored close combat system. The Russians discovered that the thinly armored ZSU 23-4 self-propelled antiaircraft gun was the optimum system for tank support in city fighting, but its vulnerability offset the efficiency of its four 23mm automatic cannons.<sup>15</sup> To ensure the survivability of tanks, they needed a new system that was built like a tank, but provided mutual close combat support. The new system should provide protection against en-



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emy antitank weapons, infantry, strong points, helicopters, and fixed wing aviation. The new system needed to be an integral part of the armored unit, but it could not be a modern T-35 with five turrets and multiple weapons. The Russian answer was the BMPT tank support vehicle. It was not an infantry fighting vehicle (BMP) and the Russians were not discounting the value of mechanized infantry in the combined arms team. They were recognizing that the mechanized infantry may not be at the critical point at the critical time.

The BMPT [Beovaya mashina podderzhki tankov] is built on a T-72 or a T-90S tank chassis, so it has the armored protection, maneuverability, and ruggedness to maneuver directly with the tank platoon. It has laminated and reactive armor and weighs 47 tons and carries a five-man crew. There are several variants. The



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first has a low-profile turret, housing a 30mm automatic cannon with a coaxial AG-17D grenade launcher, an AT-14 Koronet antitank guided missile, and a 7.62mm machine gun. The second variant has a dual 30mm automatic cannon, a coaxial 7.62mm machine gun, two grenade launchers, and four Ataka-T guided missiles with a shaped charge or thermobaric warhead.<sup>16</sup> A third variant has dual 30mm AGS-17 automatic grenade launchers and antiaircraft guided missiles.<sup>17</sup> The final design will probably use the dual 30mm automatic cannon, four Shturm-SM missiles, and two AG-17D 30mm grenade launchers (with a range of 1,700 meters), or 7.62mm machine guns in lateral sponsons.<sup>18</sup> The BMPT is designed to stay up with and support the T-90S main battle tank, nicknamed “the terminator.” The BMPT has an advertised antitank capability out to five kilometers and the ability to clear the enemy from a city block at a distance of three kilometers.<sup>19</sup>

The BMPT will be part of the Russian armor forces. Initial tactical employment envisions putting one BMPT with two tanks in the field and two BMPTs with one tank in city fighting.<sup>20</sup> This is probably not the final answer. The BMPT engages secondary targets allowing the tanks to deal with enemy tanks and strong points. The mix will depend on the situation, but a standard platoon deployment of three tanks and one BMPT is most likely. Since the BMPT is neither an infantry fighting vehicle nor a tank, it may not be covered by the Conventional Forces in Europe (CFE) treaty that limits Russia to 6,350 tanks and 11,280 personnel carriers on its territory. But that is something for the diplomats to wrangle over. Russia believes that tracked tanks have a future and that the BMPT will ensure their survivability and future.



## Notes

<sup>1</sup>Gregory Fontenot, E. J. Degen, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom*, Combat Studies Institute Press, Fort Leavenworth, KS, 2004, pp. 196-202.

<sup>2</sup>Timothy Thomas, “The Battle of Grozny: Deadly Classroom for Urban Combat,” *Parameters*, Summer 1999, pp. 87-102.

<sup>3</sup>Gennadiy Kholyavskiy, *Entsiklopediya Tankov: Polnaya entsiklopediya tankov mira 1915-2000* [Encyclopedia of Tanks. The complete encyclopedia of the world's tanks from 1915 to 2000], Kharvest [Harvest], Minsk, 2000, pp. 133-138.

<sup>4</sup>Ibid, p. 132.

<sup>5</sup>Ibid, p. 268.

<sup>6</sup>Ibid, p. 274.

<sup>7</sup>Andrew W. Hull, David R. Markov, and Steven J. Zaloga, *Soviet/Russian Armor and Artillery Design Practices: 1945 to Present*, Darlington Productions, Darlington, MD, 1999, pp. 208-213.

<sup>8</sup>Ibid, p. 213.

<sup>9</sup>Ibid, p. 238.

<sup>10</sup>Ibid, pp. 238-252.

<sup>11</sup>Ibid, pp. 252-256.

<sup>12</sup>Russian Ministry of Defense, *Russia's Arms and Technologies: The XXI Encyclopedia, Armored Vehicles: Volume VII*, [Russian-English language], Moscow, 2003, pp. 214-228.

<sup>13</sup>Christopher Donnelly, *Red Banner: The Soviet Military System in Peace and War*, Jane's Information Group, Surrey, England, 1988, passim.

Weight (tons)	47
Crew	5
Number and type cannon	2 X 30mm 2A42
Ammunition reserve 30mm cannon rounds	900
Cyclic rate of fire, cannon rounds per minute	up to 600
Number and type machine gun	1 X 7.62mm PKTM
Ammunition reserve, 7.62mm machine gun	2,000
Machine gun cyclic rate of fire, rounds/min.	up to 400
Degrees elevation of cannon and machine gun	45°
Degrees depression of cannon and machine gun	5°
Number and type grenade launchers	2 X 30mm AG-17D
Ammunition reserve, grenades	600
Type antitank guided missile	Ataka-T
Number of antitank guided missiles	4
Degrees elevation of grenade launchers	25°
Degrees depression of grenade launchers	5°
Engine	V-92S2 Diesel
Horsepower	1,000
Horsepower per ton	21.28
Maximum speed	65 kilometers per hour
Distance on tank of fuel	550 kilometers
Armor	Exceeds that of basic tank
Type of smoke grenade	902A
Stabilized gunners sight	Laser rangefinder, thermal imaging and optical with 4X and 12X magnification
Stabilized commanders sight	Panoramic, television coupled with laser rangefinder

Figure 1. Specifications for BMPT Variant 2<sup>21</sup>

<sup>14</sup>Lester W. Grau, “Russian-Manufactured Armored Vehicle Vulnerability in Urban Combat: The Chechnya Experience,” *Red Thrust Star*, January 1977.

<sup>15</sup>Dimitriy Litovkin, “Kombayn dlya polya boya. Boevaya mashina podderzhki tankov skoro postupit v voyska” [Combination for the battlefield. The tank support vehicle soon will be introduced into the force], *Izvestiya*, 15 March 2005, p. 7.

<sup>16</sup>Russian Ministry of Defense, pp. 208-213. The Russians have developed a variety of thermobaric munitions for bunker busting, minefield clearing and artillery preparation. See, Lester W. Grau and Timothy Smith, illustrated by John Richards and Ivan Pavlov, “A Crushing Victory: Fuel-air Explosives and Grozny 2000,” *Marine Corps Gazette*, August 2000, pp. 30-33.

<sup>17</sup>“I tanki nado podderzhat’...” [And tanks must be supported...], *Krasnaya zvezda* [Red star], 22 December 2004, p. 7.

<sup>18</sup>Ian Kemp, “Unthought-of Roles,” *Armada International*, 2/2005, p. 28.

<sup>19</sup>Litovkin.

<sup>20</sup>Ibid.

<sup>21</sup>Russian Ministry of Defense, pp. 208-213.

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